

Patent claims

1. A conductor for liquid-cooled windings, in particular for transformer windings, having an insulating sheathing which surrounds the conductor as a whole, in which case at least one layer of the sheathing surrounds the conductor so as to cover it completely,
characterized
in that an outer layer (3) of at least two layers (2, 3) of the sheathing has openings (4), meshes (5) or frayed sections.
2. The conductor as claimed in claim 1, characterized in that at least one, preferably each layer (2, 3) of the sheathing is formed by being wound around the conductor (1).
3. The conductor as claimed in either of claims 1 and 2, characterized in that at least one layer (2, 3) of the sheathing, preferably at least each layer (2) apart from the outer layer (3) is made from paper.
4. The conductor as claimed in one of claims 1 to 3, characterized in that the outer layer (3) is made from perforated paper.
5. The conductor as claimed in one of claims 1 to 3, characterized in that the outer layer (3) is formed by a tape which is slit at regular intervals at one edge so as to form lugs protruding at the edge, said tape preferably being made from paper.
6. The conductor as claimed in one of claims 1 to 3, characterized in that the outer layer (3) is formed by a net or woven fabric, which is preferably made from a plastic.

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- 9a -

7. The conductor as claimed in claim 6, characterized in that the net or the woven fabric has individual meshes (5) having a diameter of between 1 mm and 15 mm, preferably between 1.5 mm and 5 mm.

8. The conductor as claimed in one of claims 1 to 7, characterized in that the outer layer (3) has openings (4) having a diameter of between 2 mm and 10 mm, preferably between 3 mm and 7 mm.

9. The conductor as claimed in one of claims 1 to 8, characterized in that the outer layer (3) covers a proportion of between 30% and 80% of the layer (2) lying therebeneath.

10. The conductor as claimed in one of claims 1 to 9, characterized in that, owing to the layer (2) or layers (2), which completely cover(s) the conductor, of the sheathing, a coating having a thickness of between 0.1 mm and 2 mm, preferably between 0.2 mm and 1 mm, is formed.

11. The conductor as claimed in one of claims 1 to 10, characterized in that it comprises a plurality of individual conductor elements, preferably between five and one hundred and ninety-eight conductor elements.

12. The conductor as claimed in one of claims 1 to 11, characterized in that it has a preferably rectangular cross section of between 0.2 cm² and 40 cm².

13. A liquid-cooled transformer or liquid-cooled inductor coil containing at least one winding comprising a conductor as claimed in one of claims 1 to 12.

14. The transformer or inductor coil as claimed in claim 13, characterized in that an oil surrounding the conductor, preferably mineral oil, or an ester liquid surrounding it is provided as the coolant.